

Mr. Randy Crussemeyer
United Musical Instruments USA, Inc.
1000 Industrial Parkway
Elkhart, Indiana 46516

Re: Exempt Construction and Operation Status,
039-12924-00420

Dear Mr. Crussemeyer:

The application from United Musical Instruments USA, Inc., received on November 1, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following musical instrument manufacturing source, located at 1000 Industrial Parkway, Elkhart, Indiana, is classified as exempt from air pollution permit requirements:

- (a) One (1) buffing area, known as Buffing, installed in 1974, equipped with a baghouse and cyclone connected in series, exhausted to stack F, capacity: 1,400 musical instrument parts per day.
- (b) One (1) non-heat offset printing press, known as Multi 1650, installed in 1989, maximum line speed of 62.64 feet per minute with a printing width of 11.25 inches.
- (c) Nine (9) natural gas-fired inside hanging heaters, known as #1-I through #6-I, #8-I, #10-I and #11-I, installed in 1979, exhausted to #1-IX through #6-IX, #8-IX, #10-IX and #11-IX, rated at 0.16 million British thermal units per hour, each.
- (d) One (1) natural gas-fired inside hanging heater, known as #7-I, installed in 1979, exhausted to #7-IX, rated at 0.30 million British thermal units per hour.
- (e) One (1) natural gas-fired inside hanging heater, known as #9-I, installed in 1979, exhausted to #9-IX, rated at 0.15 million British thermal units per hour.
- (f) Two (2) natural gas-fired rooftop heating units, known as #1 and #3, installed in 1990, exhausted to #1X and #3X, rated at 0.23 million British thermal units per hour, each.
- (g) One (1) natural gas-fired rooftop heating unit, known as #4, installed in 1991, exhausted to #4X, rated at 0.22 million British thermal units per hour.
- (h) Three (3) natural gas-fired rooftop heating units, known as #5, #13 and #14, installed in 1991, exhausted to #5X, #13X and #14X, rated at 0.07 million British thermal units per hour, each.
- (i) One (1) natural gas-fired rooftop heating unit, known as #6, installed in 1991, exhausted to #6X, rated at 0.475 million British thermal units per hour.
- (j) One (1) natural gas-fired rooftop heating unit, known as #8, installed in 1991, exhausted to #8X, rated at 0.125million British thermal units per hour.

- (k) One (1) natural gas-fired rooftop heating unit, known as #9, installed in 1991, exhausted to #9X, rated at 0.074 million British thermal units per hour.
- (l) Three (3) natural gas-fired rooftop heating units, known as #11, #12 and #18, installed in 1991, exhausted to #11X, #12X and #18X, rated at 0.18 million British thermal units per hour, each.
- (m) One (1) natural gas-fired heater, known as #16, installed in 1991, replaced in 2000, exhausted to #16X, rated at 0.2 million British thermal units per hour.
- (n) One (1) natural gas-fired heater, known as #17, installed in 1991, exhausted to #17X, rated at 0.225 million British thermal units per hour.
- (o) Four (4) natural gas-fired heaters, known as #A-1 through #A-4, installed in 1988, exhausted to #A-1X- #A-4X, rated at 0.14 million British thermal units per hour, each.
- (p) One (1) natural gas-fired heater, known as #A-5, installed in 1995, exhausted to #A-5X, rated at 0.12 million British thermal units per hour.
- (q) One (1) natural gas-fired heater, known as #A-6, installed in 1995, exhausted to #A-6X, rated at 0.4 million British thermal units per hour.
- (r) One (1) plating line, known as Plating, installed in 1974, maximum throughput of 1,200 units per day.
- (s) Three (3) electroplating tanks, capacity: 200 gallons each.
- (t) Four (4) electroplating tanks, capacities: 145, 359, 14 and 349 gallons.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemption Alternative Opacity Limitations), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (2) Pursuant to 326 IAC 6-3-2 (Process Operations) The particulate matter (PM) from the buffing area shall not exceed 0.551 pounds per hour when operating at a process weight rate of 8.0 pounds per hour.

The baghouse shall be in operation at all times the buffing area is in operation, in order to comply with this limit.

United Musical Instruments USA, Inc.
Elkhart, Indiana

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An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Quality

PMC/MES

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance -Greg Wingstrom
Northern Regional Office
Permit Tracking - Janet Mobley
Air Programs Section- Michele Boner

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	United Musical Instruments USA, Inc.
Source Location:	1000 Industrial Parkway, Elkhart, Indiana 46516
County:	Elkhart
SIC Code:	3931
Operation Permit No.:	CP 039-12924-00420
Permit Reviewer:	Paula M. Cognitore

The Office of Air Quality (OAQ) has reviewed an application from United Musical Instruments USA, Inc relating to the operation of musical instrument manufacturing.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) buffing area, known as Buffing, installed in 1974, equipped with a baghouse and cyclone connected in series, exhausted to stack F, capacity: 1,400 musical instrument parts per day.
- (b) One (1) non-heat offset printing press, known as Multi 1650, installed in 1989, maximum line speed of 62.64 feet per minute with a printing width of 11.25 inches.
- (c) Nine (9) natural gas-fired inside hanging heaters, known as #1-I through #6-I, #8-I, #10-I and #11-I, installed in 1979, exhausted to #1-IX through #6-IX, #8-IX, #10-IX and #11-IX, rated at 0.16 million British thermal units per hour, each.
- (d) One (1) natural gas-fired inside hanging heater, known as #7-I, installed in 1979, exhausted to #7-IX, rated at 0.30 million British thermal units per hour.
- (e) One (1) natural gas-fired inside hanging heater, known as #9-I, installed in 1979, exhausted to #9-IX, rated at 0.15 million British thermal units per hour.
- (f) Two (2) natural gas-fired rooftop heating units, known as #1 and #3, installed in 1990, exhausted to #1X and #3X, rated at 0.23 million British thermal units per hour, each.
- (g) One (1) natural gas-fired rooftop heating unit, known as #4, installed in 1991, exhausted to #4X, rated at 0.22 million British thermal units per hour.

- (h) Three (3) natural gas-fired rooftop heating units, known as #5, #13 and #14, installed in 1991, exhausted to #5X, #13X and #14X, rated at 0.07 million British thermal units per hour, each.
- (i) One (1) natural gas-fired rooftop heating unit, known as #6, installed in 1991, exhausted to #6X, rated at 0.475 million British thermal units per hour.
- (j) One (1) natural gas-fired rooftop heating unit, known as #8, installed in 1991, exhausted to #8X, rated at 0.125million British thermal units per hour.
- (k) One (1) natural gas-fired rooftop heating unit, known as #9, installed in 1991, exhausted to #9X, rated at 0.074 million British thermal units per hour.
- (l) Three (3) natural gas-fired rooftop heating units, known as #11, #12 and #18, installed in 1991, exhausted to #11X, #12X and #18X, rated at 0.18 million British thermal units per hour, each.
- (m) One (1) natural gas-fired heater, known as #16, installed in 1991, replaced in 2000, exhausted to #16X , rated at 0.2 million British thermal units per hour.
- (n) One (1) natural gas-fired heater, known as #17, installed in 1991, exhausted to #17X , rated at 0.225 million British thermal units per hour.
- (o) Four (4) natural gas-fired heaters, known as #A-1 through #A-4, installed in 1988, exhausted to #A-1X- #A-4X, rated at 0.14 million British thermal units per hour, each.
- (p) One (1) natural gas-fired heater, known as #A-5, installed in 1995, exhausted to #A-5X, rated at 0.12 million British thermal units per hour.
- (q) One (1) natural gas-fired heater, known as #A-6, installed in 1995, exhausted to #A-6X, rated at 0.4 million British thermal units per hour.
- (r) One (1) plating line, known as Plating, installed in 1974, maximum throughput of 1,200 units per day.
- (s) Three (3) electroplating tanks, capacity: 200 gallons each.
- (t) Four (4) electroplating tanks, capacities: 145, 359, 14 and 349 gallons.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment

There are no new facilities/units requiring approval during this review.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

CP 039-6909-00420, issued on December 31, 1996.

All conditions from previous approvals were incorporated into this permit except the following:

CP 039-6909-00420, issued on December 31, 1996

Condition 326 IAC 6-3-2 (Process operations: particulate emission limitations)

Pursuant to 6-3-2 no person shall operate the buffing equipment so as to produce, cause, suffer or allow particulate matter to be emitted in excess of the amount of 0.1 pound per hour. This baghouse operation shall be operated at all times when buffing equipment is in operation.

This condition has been changed to state:

The particulate matter (PM) from the buffing area shall not exceed 0.551 pounds per hour when operating at a process weight rate of 8.0 pounds per hour.

The baghouse shall be in operation at all times the buffing area is in operation, in order to comply with this limit.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
F	Buffing	12.0	1.58	6,459	72
#1-IX	Heater	16.0	0.583	800	160
#2-IX	Heater	18.0	0.583	800	160
#3-IX	Heater	18.0	0.583	800	160
#4-IX	Heater	18.0	0.417	800	160
#5-IX	Heater	18.0	0.417	800	160
#6-IX	Heater	18.0	0.417	800	160
#7-IX	Heater	18.0	0.583	800	160
#8-IX	Heater	18.0	0.417	800	160
#9-IX	Heater	18.0	0.583	800	160
#10-IX	Heater	18.0	0.417	800	160
#11-IX	Heater	18.0	0.417	800	160
#1X	Heater	17.0	0.417	800	160
#2X	Heater	17.0	0.417	800	160
#3X	Heater	17.0	0.417	800	160
#4X	Heater	17.0	0.417	800	160
#5X	Heater	17.0	0.417	800	160
#6X	Heater	17.0	0.417	800	160
#8X	Heater	17.0	0.417	800	160

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
#9X	Heater	17.0	0.417	800	160
#11X	Heater	17.0	0.417	800	160
#12X	Heater	17.0	0.417	800	160
#13X	Heater	17.0	0.417	800	160
#14X	Heater	19.0	0.417	800	160
#16X	Heater	17.0	0.417	800	160
#17X	Heater	17.0	0.417	800	160
#18X	Heater	17.0	0.417	800	160
#A-1X	Heater	22.0	0.583	800	160
#A-2X	Heater	22.0	0.583	800	160
#A-3X	Heater	22.0	0.583	800	160
#A-4X	Heater	22.0	0.583	800	160
#A-5X	Heater	22.0	0.583	800	160
#A-6X	Heater	22.0	0.667	800	160

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 1, 2000, with additional information received on December 19, 2000.

Emission Calculations

See pages 1 through 4 of 4 of Appendix A of this document for detailed emissions calculations.

Note: The emissions from the electroplating process are negligible.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material

combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	4.31
PM ₁₀	4.44
SO ₂	2.41
VOC	0.464
CO	2.02
NO _x	2.41

HAPs	Potential To Emit (tons/year)
Glycol Ethers	0.006
Benzene	0.00005
Dichlorobenzene	0.00003
Formaldehyde	0.002
Hexane	0.043
Toluene	0.00008
Lead	0.00001
Cadmium	0.00003
Chromium	0.00003
Manganese	0.000009
Nickel	0.00005
TOTAL	0.051

The potential to emit (as defined in 326 IAC 2-5.1-2) of PM and PM₁₀ is less than five (5) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.

Actual Emissions

No previous emission data has been received from the source.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR Part 52.21.
- (b) Elkhart County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR Part 52.21.
- (c) Fugitive Emissions

Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR Part 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.089
PM ₁₀	0.226
SO ₂	2.41
VOC	0.464
CO	2.02
NO _x	2.41

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of two hundred-fifty (250) tons per year or more, and it is not in one of the 28 listed source categories.

- (b) These emissions were based on the application submitted by the company.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit CP 039-12924-00420, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one hundred (100) tons per year,
- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) any combination of HAPS is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAM inspector assigned to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Subpart N because the electroplating at the source does not involve chrome.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Elkhart County and the potential to emit PM and PM₁₀ is less than ten (10) tons per year, therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR Part 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New source toxics control)

The HAP emissions from Multi 1650 are less than ten (10) tons per year of a single HAP and twenty-

five (25) tons of any combination of HAPs and the emission units were constructed in 1989, prior to the applicability date of this rule; therefore, the requirements of 326 IAC 2-4.1-1 are not applicable.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the buffing area shall not exceed 0.551 pounds per hour when operating at a process weight rate of 8.0 pounds per hour.

The baghouse shall be in operation at all times the buffing area is in operation, in order to comply with this limit.

326 IAC 8-1-6 (New facilities; general reductions requirements)

The VOC emissions from Multi 1650 are less than twenty-five (25) tons per year; therefore, the requirements of 326 IAC 8-1-6 are not applicable.

Conclusion

The operation of this musical instrument manufacturing source shall be subject to the conditions of the attached proposed Exemption 039-12924-00420.

Appendix A: Emission Calculations Baghouse Operations

Company Name: United Musical Instruments USA, Inc.
Address City IN Zip: 1000 Industrial Parkway, Elkhart, Indiana 46516
CP: 039-12924
Plt ID: 039-00420
Reviewer: Paula M Cognitore
Date: November 1, 2000

Unit ID	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	Emission Rate before Controls (lb/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
F	99.0%	0.000176	6444.0	1.0	4.26	0.010	0.043

Methodology

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Allowable Rate of Emissions

Process Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Allowable Emissions (tons/yr)
100	0.050	0.551	2.41

Methodology

Allowable Emissions = $4.10(\text{Process Weight Rate})^{0.67}$

**Appendix A: Emissions Calculations
VOC From Printing Press Operations**

Page 2 of 4 TSD App A

**Company Name: United Musical Instruments USA, Inc.
Address City IN Zip: 1000 Industrial Parkway, Elkhart, Indiana 46516
CP: 039-12924
Plt ID: 039-00420
Reviewer: Paula M Cognitore
Date: November 1, 2000**

THROUGHPUT			
Press I.D.	MAXIMUM LINE SPEED (FEET/MIN)	MAXIMUM PRINT WIDTH (INCHES)	MMin^2/YEAR
Multi 1650	62.64	11.25	4445

INK VOCS					
Ink Name Press Id	Maxium Coverage '(lbs/MMin^2)	Weight % Volatiles*	Flash Off %	Throughput (MMin^2/Year)	Emissions (tons/year)
Ink Rubber Base	1	8%	5.00%	4445	0.009
Oil Base	1	100%	5.00%	4445	0.111
Wash V-120	1	91%	5.00%	4445	0.101
Alcohol	1	100%	5.00%	4445	0.111
INK HAPS	Total VOC Emissions (tons/yr) =				0.332
	Maxium Coverage '(lbs/MMin^2)	Weight % Glycol Ethers	Flash Off %	Throughput (MMin^2/Year)	HAP Emissions (tons/year)
Wash V-120	1	5%	5.00%	4445	0.006

*VOC (Tons/Year) = Maximum Coverage pounds per MMin^2 * Weight % volatiles (weight % of water & organics - weight % of water = weight % organics) * Flash off * Throughput * 1 Ton per 2000 pounds

METHODOLOGY

Throughput = Maximum line speed feet per minute * Convert feet to inches * Maximum print width inches * 60 minutes per hour * 8760 hours per year = MMin^2 per Year

VOC = Maximum Coverage pounds per MMin^2 * Weight percentage volatiles (water minus organics) * Flash off * Throughput * Tons per 2000 pounds = Tons per Year

NOTE: HEAT SET OFFSET PRINTING HAS AN ASSUMED FLASH OFF OF 80%. OTHER TYPES OF PRINTERS HAVE A FLASH OFF OF 100%.

(Source -OAQPS Draft Guidance, "Control of Volatile Organic Compound Emissions from Offset Lithographic Printing (9/93))

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: United Musical Instruments USA, Inc.
Address City IN Zip: 1000 Industrial Parkway, Elkhart, Indiana 46516
CP: 039-12924
Plt ID: 039-00420
Reviewer: Paula M Cognitore
Date: November 1, 2000

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

5.50

48.18

(TOTAL OF ALL HEATING UNITS)

Pollutant

Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	SO2 0.6	NOx	VOC 5.5	CO 84.0
				100.0 **see below		
Potential Emission in tons/yr	0.046	0.183	0.014	2.41	0.132	2.02

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 4 for HAPs emissions calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****HAPs Emissions**

Company Name: United Musical Instruments USA, Inc.
Address City IN Zip: 1000 Industrial Parkway, Elkhart, Indiana 46516
CP: 039-12924
Plt ID: 039-00420
Reviewer: Paula M Cognitore
Date: November 1, 2000

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	5.059E-05	2.891E-05	1.807E-03	4.336E-02	8.191E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.205E-05	2.650E-05	3.373E-05	9.154E-06	5.059E-05

Methodology is the same as page 3.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.